

Application No. 10/634,983

AUG 04 2006

REMARKS

The Office Action of May 04, 2006, has been carefully considered. Reconsideration of this application is respectfully requested.

Claims 1-27 are pending and stand rejected. Applicants traverse all of the rejections. Applicants respectfully request allowance of claims 1- 22, 24-27. Claims 1 and 22 have been amended herein. Claim 23 has been cancelled herein.

Applicants respectfully submit that claims 1-22, 24-27 are patentable over Amarasekera et al. (U.S. 6,689,835 B2) and Bluett et al. (U.S. 6,214,921 B1).

Claims 1-27 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite. The Examiner indicates that in claim 1, line 18, the phrase, 'the imaginary axis lacks proper antecedent basis. In response, Applicant has amended claim 1 by removing the limitation and providing further clarification. Applicants traverse the rejection with respect to claims 22-27 as independent claim 22 does not include such a limitation. Withdrawal of the rejection under § 112, second paragraph is respectfully requested.

Claims 1, 2, and 5-27 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Amarasekera et al. (U.S. 6,689,835 B2). The Examiner alleges the cited reference teaches the claimed invention including an apparatus comprising members comprising conductive fibers of specific dimensions, and coating thereon at col. 6, lines 11-60; col. 1, lines 38-52; col. 3, lines 1-11; col. 5, lines 41-57; and abstract. In response, Applicants respectfully disagree and traverse the rejection. Where, for example, is there a disclosure of a plurality of conductive fibers each having a first end, a length, a second end, and a diameter in the range of from 0.5 microns to 25 microns, the plurality of conductive fibers situated in a conductive composite member having a length and a diameter in the range of from 1 microns to 2 meters;

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and a metal coating having a thickness in the range of from .001 microns to 25 microns disposed on at least a portion of the outside surface of a plurality of conductive composite members; wherein the plurality of conductive composite members are disposed in the member and are selectively situated with respect to each other and form a matrix configuration including at least one selected dimension between the plurality of conductive composite members; and wherein a polymer is solidified about at least a portion of a periphery of the plurality of conductive composite members forming an integral structure, as recited in amended claim 1?

Concerning claim 2, the Examiner alleges the reference teaches pultruded fibers – col. 4, lines 40-46; col. 7, lines 64-67; col. 8, lines 2-19. In response, Applicants respectfully submit, as best understood, there is no disclosure in Amarasekera et al. (U.S. 6,689,835 B2) of an apparatus (including the limitations of amended independent claim 1) having pultruded composite members. Amarasekera et al. (U.S. 6,689,835 B2) discloses feeding into an extruder and immediate quenching in a water bath and pelletized.

Concerning claim 6, the Examiner alleges the reference teaches openings – col. 5, lines 9-22. In response, claim 6 recites the apparatus (including the limitations of amended independent claim 1) having an opening in a wall between the interior and exterior periphery surfaces. As best understood, the referred to col. 5, lines 9-22 of Amarasekera et al. (U.S. 6,689,835 B2) does not teach the limitations as recited in claim 6.

Concerning claims 7 and 27, the Examiner alleges the reference teaches utility in circuit members – see abstract. In response, Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach the apparatus of claims 7 (including the limitations of amended independent claim 1) in which the conductive region is for communication with a circuit, or the apparatus of claim 27 (including the limitations of independent claim 22),

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suitable for use in an RF electric circuit to conduct current in the range of 1 hertz to 100 giga-hertz.

Concerning claims 8-11, the Examiner alleges the reference teaches exposed and coated fiber members – col. 6, line 54; col. 5, lines 54-60; col. 8, lines 3-20. In response, Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach: the apparatus of claim 8 (including the limitations of amended independent claim 1) in which the conductive region is exposed at a periphery surface; the apparatus of claim 9 (including the limitations of independent claim 1) in which a plurality of conductive fibers are at least partially coated with an electrically conductive material; the apparatus of claim 10 (including the limitations of independent claim 1) in which the conductive region is at least partially coated with an electrically conductive material; or the apparatus of claim 11 (including the limitations of independent claim 1) in which the conductive members comprise a thermally conductive material.

The Examiner alleges Amarasekera et al. (U.S. 6,689,835 B2) teaches nonconductive fibers associated with conductive fibers – abstract, as required by claim 12. In response, Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach the apparatus of claim 12 (including the limitations of amended independent claim 1) further including a plurality of non-conductive members comprising non-conductive fibers, the plurality of non-conductive members being disposed in the member and associated with the plurality of conductive members.

Concerning claim 5, the Examiner alleges Amarasekera et al. (U.S. 6,689,835 B2)'s product would inherently possess lumen (light output) as circuit boards always do. In response, Applicants clarify the lumen as referring to, for example, a bore. Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach the apparatus of claim 5 (including the limitations of amended independent claim 1) including a lumen.

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The Examiner alleges the reference teaches electroplating in col. 3, lines 1-20 as required by claim 13. In response, Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach the apparatus of claim 13 (including the limitations of amended independent claim 1) in which the metal coating is formed by at least one of vacuum deposition, vapor deposition, electroplated, sputter coating, and electroless plated process.

The Examiner alleges the reference teaches metal members in col. 4, lines 40-51 as required by claims 14 and 15. In response, Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach: the apparatus of claim 14 (including the limitations of amended independent claim 1) in which the conductive member includes at least one of a metal and metal alloy; or the apparatus of claim 15 (including the limitations of amended independent claim 1) in which the conductive member includes a material selected from at least one of nickel, copper, gold, platinum, tungsten, silver, palladium, tin, iron, aluminum, zinc, chromium, lead, brass, nickel/boron, gold/carbon, palladium/nickel, and silver carbon.

The Examiner alleges the reference teaches similar weight for coating material in col. 5, lines 6; col. 6, line 5 and required by claims 17-21 – col. 3, lines 46-54; col. 4, lines 17-24; col. 5, lines 23-27; col. 6, lines 21-28. In response, Applicants submit Amarasekera et al. (U.S. 6,689,835 B2) does not teach: the apparatus of claim 17 (including the limitations of amended independent claim 1) in which the conductive fibers include carbon and the metal coating has a weight in the range of from 2% to 50% of the weight of the carbon in the conductive member; the apparatus of claim 18 (including the limitations of amended independent claim 1) in which the conductive region is within 25 microns of at least one of the exterior periphery surface and the interior periphery surface; the apparatus of claim 19 (including the limitations of amended independent claim 1) in which the metal coating has a weight in the range of from 1% to 90% of the weight of the conductive member; the

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apparatus of claim 20 (including the limitations of amended independent claim 1) in which the plurality of fibers are metal coated and are pultruded in a resin binder to form a selected cross-sectional shape; or the apparatus of claim 21 (including the limitations of amended independent claim 1) in which the plurality of fibers include carbon and are metal coated and separated from another by at least one of the polymer and an insulating fiber.

Claims 3, 4, 16, and 24-26 stand rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Amarasekera et al. (U.S. 6,689,835 B2) in view of Bluett et al. (U.S. 6,214,921 B1). In response, Applicants respectfully traverse all of the Examiner's rejections. Applicants respectfully request withdrawal of the rejection of 3, 4, 16, and 24-26. Even if Amarasekera et al. (U.S. 6,689,835 B2) and Bluett et al. (U.S. 6,214,921 B1) were combined, they would not provide the amended claims. Applicants traverse the rejection of claim 16 based on inherency for at least the reason that other types of metals are a possibility, and the combination of dependent claim 16 and all of the limitations of amended independent claim 1 are not present.

In response and with respect to amended independent claim 1, Applicants respectfully submit that Amarasekera et al. (U.S. 6,689,835 B2) and Bluett et al. (U.S. 6,214,921 B1) do not teach, suggest, or provide motivation for the totality of the combination of an apparatus including a member having at least one of an exterior periphery surface and an interior periphery surface, and a length; and a plurality of conductive members comprising a plurality of conductive fibers having a length, the plurality of conductive fibers situated within a polymer forming a conductive region situated in relation to at least one of the exterior periphery surface and the interior periphery surface; wherein the plurality of conductive fibers each having a first end, a length, a second end, and a diameter in the range of from 0.5 microns to 25 microns, the plurality of conductive fibers situated in a

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conductive composite member having a length and a diameter in the range of from 1 microns to 2 meters; and a metal coating having a thickness in the range of from .001 microns to 25 microns disposed on at least a portion of the outside surface of at least one conductive member; wherein the plurality of conductive members are disposed in the member and are selectively situated with respect to each other and form a matrix configuration including at least one selected dimension between an imaginary axis of a plurality of conductive members; and wherein a polymer of the member is solidified about at least a portion of a periphery of the plurality of conductive members forming an integral structure, as a whole, as recited in amended claim 1. Applicants respectfully submit that amended claim 1 is allowable and the rejection should be withdrawn.

Claims 2-21 depend from independent claim 1 and are allowable on their own merits as recited and claimed in combination with amended independent claim 1, and the rejections should be withdrawn.

In response and with respect to amended independent claim 22, Applicants respectfully submit that Amarasekera et al. (U.S. 6,689,835 B2) and Bluett et al. (U.S. 6,214,921 B1) do not teach, suggest, or provide motivation for the totality of the combination of an apparatus including a composite member comprising a plurality of conductive fibers, each conductive fiber having a length, outside surface, a diameter in the range of from 0.5 microns to 25 microns, a first end and a second end, the composite member having an outside surface and a length; and a metal coating having a thickness in the range of from 0.001 microns to 10 microns disposed on at least a portion of the outside surface of a plurality of the conductive fibers; wherein at least one conductive fiber is spaced from another conductive fiber along at least a portion of the length of the composite member; and wherein the composite member includes a polymer resin solidified about at least a portion of a periphery of the plurality of conductive fibers forming an integral

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structure; wherein a plurality of the conductive fibers form at least one set of conductive fibers in association with the composite member, the at least one set of conductive fibers having a length and cross sectional area in the range of from less than 0.01 square microns to 1000 square microns and a metal coating having a thickness disposed on at least a portion of an outside surface of the at least one set of conductive fibers, as a whole, as recited in amended claim 22. Applicants respectfully submits that amended independent claim 22 is allowable and the rejection should be withdrawn.

Claims 24-27 depend from amended independent claim 22 and are allowable on their own merits as recited and claimed in combination with amended independent claim 22, and the rejections should be withdrawn.

Applicants appreciate the Examiners consideration of the application. The Examiner though has not established a prima facie case of obviousness. Under MPEP 2142, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicants disclosure.

Here, the Examiner does not appear to have examined each limitation and each claim, as a whole. Second, the Examiner has provided no evidence of reasonable expectation of success to produce the claimed subject matter. Third, all of the claim limitations, as a whole, are not taught or suggested. Applicants request the Examiner to provide particularity of any rejection made for each limitation including specific citations in the alleged

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reference used in the rejection. As discussed above, Applicant has not found the cited references to support the rejections.

Each of the claims must be considered as a whole, and the proper question is whether there is something in the prior art, as a whole, to suggest the desirability, and thus the obviousness, of making the combination. Obviousness cannot be established by combining the teaching of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination.

Applicants respectfully request the Examiner to examine each independent claim, and each dependent claim in combination with its respective independent claim, individually, as a whole. Allowance of claim 1-22, and 24-27 is respectfully requested.

Applicants respectfully request a telephonic interview in order to advance the application in the event that the Examiner does not provide a notice of allowance of the pending claims 1-22, 24-27.

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CONCLUSION

No additional fee is believed to be required for this request for status and examination, however, the undersigned Xerox Corporation attorney hereby authorizes the charging of any necessary fees, other than the issue fee, to Xerox Corporation Deposit Account No. 24-0025.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is hereby authorized to call Andrew D. Ryan, at Telephone Number 585-422-8085, Rochester, New York.

Respectfully submitted,



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ADR:ez

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